GOVERNMENT OF INDIA
POWER
LOK SABHA

UNSTARRED QUESTION NO:3159
ANSWERED ON:19.12.2008
FREQUENCY RELAY IN POWER SUPPLY
Singh Shri Ganesh

Will the Minister of POWER be pleased to state:

(a) whether the Central Electricity Authority (CEA) has placed some States viz. Madhya Pradesh, Gujarat, Chhattisgarh, Maharashtra and Goa under frequency relay in power supply;

(b) if so, the reasons therefor; and

(c) the corrective measures taken/proposed to be taken by the Government in this regard?

Answer

THE MINISTER OF STATE IN THE DEPARTMENT OF COMMERCE, MINISTRY OF COMMERCE & INDUSTRY AND MINISTER OF STATE IN THE MINISTRY OF POWER (SHRI JAIRAM RAMESH)

(a) to (c) : Western Regional Power Grid comprises of States of Chhattisgarh, Gujarat, Madhya Pradesh, Maharashtra, Goa and Union Territories of Daman & Diu and Dadra & Nagar Haveli. Presently the Western Regional grid is connected synchronously with Northern, Eastern & North Eastern grids. A committee known as Western Region Power Committee (WRPC) has been formed in the Western Region as per the Electricity Act 2003, comprising the players partaking in grid operation in the Western Region with the mandate to agree on matters concerning the stability and smooth operation of the integrated grid and economy and efficiency in the operation of the power system in the region.

In the event of tripping of any major generating unit in any of the inter-connected grids and also sudden increase in load, the mismatch in generation and demand may lead to frequency falling below acceptable levels. Without timely intervention under extreme conditions, the frequency may dip to dangerously low levels which may lead to cascade tripping and power disruption over a wide area. The load generation balance is to be primarily maintained by adjusting the generation according to change in load by the Load Despatch Centres (LDCs). In the event of failure of such intervention by the LDCs, Under Frequency Load Shedding Scheme (UFLS) is implemented in all the Regional grids, in which load is automatically shed on sensing the pre-decided frequency levels. This minimizes the mismatch between generation and load and the system is saved from potential collapse. This scheme is a defence mechanism to save the grid and thus remains in service all the time and is essential for secure grid operation and saving the grid from plunging into total darkness.

In Western Region, the UFLS scheme has been in operation for many years now. The settings of under frequency relays are decided i n consultation with the Constituent States, Regional Load Despatch Centre (RLDC) and the Central Electricity Authority and approved by Western Regional Electricity Board/WRPC. Since synchronization of Western- Eastern-North Eastern Grid with the Northern Regional Grid in August, 2006, frequency relays were set to shed load at instantaneous frequency levels of 48.8 Hz, 48.6 Hz and 48.2 Hz. These settings have been implemented and are in operation in the Western Regional Grid.